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## Some Mammal Remains from a Jackson County Cave

JAMES M. TROSKY and EMMETT POLDER<sup>1</sup>

*Abstract.* Excavation of a trench in the floor of a cave at Springbrook, Jackson County, Iowa, yielded bones of nine species of mammals. At a depth of 19 to 24 inches the jawbone of a porcupine and the upper right canine tooth of a black bear were found. There are no museum records of either species in Iowa. Intermingled with these remains were clam shells and ashes probably left by cave dwelling Indians. Historical literature indicates that the bear probably was extinct in Iowa before the Civil War and the porcupine before the advent of white settlers.

In the fall of 1959 four Loras College students, Henry Barth, Richard Komp, Lynn Hohnecker, and the senior author uncovered the bones of several mammals while exploring a cave near Springbrook in Jackson County. Some of these bones, along with pieces of clam shell, were brought to the junior author for identification. These fragments appeared to be representative of some species that were close to extinction soon after settlement of the state by white men. Since the study of these specimens could give some clue to the ecological makeup of the mammal community prior to the disturbance created by the European settler, the senior writer was assigned the task of recording cave data and identifying the specimens removed from the cave.

The cave, known locally as Michel's Cave, is located two miles south of Springbrook in the N.W.  $\frac{1}{4}$ , Sec. 27, T.85 N., R. 4 E. in Jackson County. It is a simple cavern with five short branch caverns and eight rooms all connected by narrow passages. This cave is located in Niagara Limestone and appears to have been formed by erosion from sink holes. The passages leading to the sink holes are plugged with silt at the present time at a distance of 175 feet from the entrance of the cave. The rock is covered by glacial till from the Nebraskan and Kansan drifts.

The entrance of the cave faces southwest and lies at an elevation of 35 feet above a dry creek bed which is 60 feet distant from the cave mouth. The diameter of the cave is small due to the accumulation of silt and debris over a long period of time. Most of the bones were obtained from the third room of the cave, 50 feet from its entrance. This room was 32 inches high, 132 inches long, and 55 inches wide before excavation. The dome-like ceiling and side walls

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of this room were incised with deep scratches that appeared to have been made by sharp instruments or the claws of a large mammal.

On December 12, 1959, a second collecting trip was made to the cave. A sample excavation was made in the third room by digging a trench 36 inches long, 24 inches deep, and 12 inches wide. The soil was taken up in one inch layers, with the aid of shovels, and sifted through a coarse screen. The sifted debris and soil were carefully examined for bones and teeth and any human artifacts that could be of value in dating the cave floor strata.

Excavation of the top four inches of the cave floor yielded a rusty ten-penny nail, the cervical vertebra of a domestic pig, *Sus scrofa*, and skeletal fragments of at least eight raccoons, *Procyon lotor*. At the 8 to 12 inch level the ribs of a woodchuck, *Marmota monax*, the lower jaw of a rabbit, *Sylvilagus floridanus*, and the ribs and baculum of *P. lotor* were found. At the lowest level of excavation, the 19 to 24 inch level, ashes, fire-scorced stones, and fragments of clam shells were intermingled with two upper jaw fragments of *P. lotor*, the right lower jaw and ribs of *M. monax*, the right upper canine tooth of a black bear, *Euarctos americana*, the left lower jaw and right femur of a mink, *Mustela vison*, the left lower jaw of a badger, *Taxidea taxus*, the left lower jaw of a porcupine, *Erithizon dorsatum*, and the distal part of a tibia of a deer, *Dama sp.*

Among the other bones obtained by random digging out of passages between small rooms at the rear of the cave were two large cervical vertebrae, the distal end of a femur, and an antler tine. These were identified as bones of *Dama sp.* The antler tine was thought by Dr. E. Raymond Hall who examined these specimens to be the brow tine of *D. virginiana*.

The cave floor below the 24-inch level was hard-packed fine sandy material and was apparently the original bottom before human habitation. No artifacts of value in dating the mammal remains above this level could be found.

The presence of the porcupine jaw indicates an age for this level that probably antedates early white settlement in the state. One writer, Spurrell (1917), reports that he was informed by early settlers in Sac County that this mammal was rare on their arrival in 1854. It is interesting to note that no specimen skins or skeletal parts from this species are on record for Iowa.

The black bear apparently was once widely distributed in the state, judging from the fact that the prehistoric mound-building Indians built numerous bear effigy mounds and that the early settlers named several Iowa creeks for this animal. Spurrell gives the date of the last known bear report in Iowa as 1855. Although there

are at least three references to bears in Iowa's historical literature, there are no Iowa specimens preserved in museum collections so far as the authors have been able to determine.

All mammals found in the excavation, other than the bear and porcupine, are present in the state today. The evidence of woodchuck remains among the ashes in the lowest level of the excavation would indicate that this animal was probably present in eastern Iowa by the time the first settlers arrived. Its distribution in the state is not well known for the early years of settlement, but it appeared to be more commonly observed in central and southwestern Iowa in the latter half of the 19th century.

We think much more information could be obtained from this cave site. The presence of many clam shells associated with ashes would indicate that this place served as a cave shelter for Indians who had to travel from two to three miles to the Maquoketa River for their shell fish supply. The site is probably prehistoric but cultural means of dating it such as potsherds, projectile points, or other artifacts were not uncovered. When ashes and shells were found, excavation was limited to the narrow trench previously described because of the possibility that the cave might have some archaeological significance.

#### Literature Cited

- Spurrell, J. A. 1917. An annotated list of the mammals of Sac County. Proc. Iowa Academy of Sci. 24: 273-284.